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Cost Effectiveness and Hospitalization Rates of Those with
Mental Health Issues Using On-Site versus Off-Site Job Coaching

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A Thesis Quality Research Project

Submitted in Partial Fulfillment of the
Requirements for the Masters of Public Administration

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BACKGROUND

Purpose of Research

This research looked at the cost effectiveness of supportive employment services as it pertains to on-site or off-site job coaching for people suffering from mental illness. This study compared the hospitalization rates of those receiving the two types of coaching along with their job retention outcomes. The cost of hospitalization will be quantified per inpatient day and will be compared with the costs of these job coaching programs per day over the 90-day supervised probation period. Therefore, the research question is as follows, “Is on-site job or off-site job coaching more closely associated with decreased hospitalization rates and increased job retention rates for the mentally ill?”

Problem Statement

The State of California’s Department of Rehabilitation has established a goal of reducing the rate of unemployment for people suffering from mental illness (Department of Rehabilitation, 2020). Sheltered workshops and short duration employment efforts have proven to be less effective than the Individual Placement and Support (IPS) or other supported employment models. Provided that they have the right support and strategies, those suffering from mental illness can maintain competitive employment and reduce their incidences of hospitalization, dependency, boredom, and lack of fulfillment. The alienation one suffers from lack of social connection and employment cannot be understated. Participants in supported employment programs keep their jobs for longer periods of time, and regain self-respect and a sense of self-worth that is lacking while unemployed (Bond, 2004; Cimera, 2008). Continued efforts focusing on job retention and decreased hospitalization stays, especially as it pertains to people with diagnosed mental illness, could benefit those afflicted, as well as society as a whole.

Background of the Problem

Mental health diagnoses include depression, schizophrenia, posttraumatic stress disorder, bipolar disorder and other mood disorders, just to name a few. Having a mental health diagnosis indicates an extensive array of possible mental health conditions (Mayo Clinic, 2019). A mental health diagnosis exists when the identification of a disease based on symptoms and signs meet certain criteria defined by psychiatric professionals (Mayo Clinic, 2019). Mental illness in America currently affects one in five adults each year, with one in 25 adults experiencing serious mental health issues (National Alliance on Mental Health, 2019). With such a high prevalence of mental illness, it is important to find solutions to reduce symptoms and integrate the mentally ill effectively into society.

People with severe and persistent mental health issues are often admitted to psychiatric hospitals for many different reasons. One could be considered a danger to himself or others because of mental illness. After observation by a doctor, he or she might be considered gravely disabled, without the means to care for himself or herself, or may be found to have attempted to kill himself or herself in the recent past (California Department of Health Care Services, 2014). Many people admitted to the hospital for observation are initially picked up by law enforcement, and because of observed odd behavior, brought to psychiatric units or hospitals (Treatment Advocacy Center, 2007). The amount of time one can be forcibly detained varies from state to state. In California, the hospital may involuntarily commit someone for up to 72 hours after he or she has been evaluated by the doctor in short-term evaluation hold (California Department of Health Care Services, 2014). If a hospital is granted a court order, the hospital stay may persist for longer (California Department of Health Care Services, 2014).

Inpatient hospitalization rates for people diagnosed with a mental illness vary from state to state, and the exact timeframes are not published for public view. According to one study, the

average length of an inpatient stay for those with severe mental illness is 10 days, with a standard deviation of 3 days (Lee, Rothbard, & Noll, 2012). In California, the average length of stay for acute psychiatric care is 7.6 days (California HealthCare Foundation, 2018). Those with severe mental illness typically qualify for Medicare, which means that the government often pays the majority of costs associated with these stays once the initial deductible is reached (\$1,408 in 2020) (Mental Health Care (Inpatient), 2019). Each facility is required to accept all persons who qualify for services up to their capacity without regard to insurance or financial status (Treatment Advocacy Center, 2018).

Laws Protecting People with Mental Health Issues

Because of the challenges people with mental health issues face related to employment and other issues, laws were put into place to protect their rights. The Barden-LaFollette Act in 1943 was the first time the U.S. Congress authorized public vocational services for individuals with psychiatric and mental disabilities with the purpose of rehabilitation (Schriner, Rumrill, & Parlin, 1995). However, it was not until the late 1950s that many with mental health issues took advantage of these services (Schriner, Rumrill, & Parlin, 1995).

The Americans with Disabilities Act

The Americans with Disabilities Act of 1990 (and amended in 2008) was enacted to protect people from discrimination. The Americans with Disabilities Act was a landmark piece of legislation that paved the way for people with mental health issues and other disabilities towards achieving equality in the workplace. Americans with Disabilities Act was created, among other reasons, to set an even playing field for people with disabilities and other disadvantaged people as it pertained to employment (American With Disabilities Act of 1990, 1990). It prohibits unjust termination on the part of the employer as it pertains to exclusion because of perceived incapacities. The purpose of such laws is to protect vulnerable populations

and their chance at prosperity. The statute also protects people with disability from any kind of retaliation from their employer if they choose to assert their rights covered within the law (American With Disabilities Act of 1990, 1990).

Title I of the Americans with Disabilities Act specifically discourages discrimination when it pertains to recruiting, pay, promotions, hiring, or any other benefit that might be bestowed on a person because of his or her perceived disability; it applies to prospective employers who employ at least 15 or more workers (United States Department of Labor, n.d.). There are provisions under Title I that protect employers if it is perceived that they would suffer an undue hardship due to the hiring of a person who would need extensive or expensive accommodations (American With Disabilities Act of 1990, 1990). Title II of the Americans with Disabilities Act focuses directly on local and state government hiring practices. It mandates that regardless of the size of the government entity, or whether it receives federal funding, it must abide by the laws provided by the statute, and make available all resources, whether educational or employment, related available to all qualified individuals, regardless of disability (United States Department of Labor, n.d.).

The Americans with Disabilities Act covers employees whether their disability is physical or mental in nature. If that impairment significantly limits a key life activity, that person is protected by the law (American with Disabilities Act of 1990, 1990). The law also mandates that employers are not allowed to use previous history of disability as grounds for not hiring a person. The perception of disability by an employer, whether true or false, as grounds to not hire an individual is also unlawful under the Americans with Disabilities Act (American with Disabilities Act of 1990, 1990). A person protected by the law is defined as an individual capable of carrying out the essential duties required by the organization or the position applied for. This applies to any person regardless of the need for an employer's reasonable accommodation. The

essential duties in the job description are the duties that are critical to the position.

Supplementary duties cannot affect whether a person is considered for the position by an employer under the law (American With Disabilities Act of 1990, 1990).

The Rehabilitation Act

The Rehabilitation Act of 1973, sections 501, 503, 504, and 508, specifically prohibits discrimination against those with disabilities in job employment. Section 501 prohibits any federal agency from discriminating against any person with a perceived disability if that person is qualified for the position (United States Department of Labor, n.d.). Section 503 prohibits employers funded by federal contracts or subcontractors from discriminating against people with disabilities (United States Department of Justice, 2017). Section 504 of the Rehabilitation Act prohibits any discrimination from any entity or program that receives federal dollars to run their program (United States Department of Justice, 2017). Section 508 requires federal agencies to provide necessary technologies for people with disabilities to enhance their opportunity to perform optimally at work (United States Department of Justice, 2017).

The Workforce Innovation and Opportunity Act

The Workforce Innovation and Opportunity Act of 2013 (WIOA) covers the creation and maintenance of employment programs and job training which includes the training of adults, youth and dislocated workers at the state and local level (United States Department of Labor, n.d.). The law forbids federal funding for any program with discrimination of any sort against people with disabilities (United States Department of Labor, n.d.). The law mandates a creation of a one-stop system, which calls for the creation of centers that will provide medication, case management, housing, and employment opportunities to meet the disabled person's needs in one location (Smith, Dillahunt-Apillaga, & Kenney, 2017). There are other employment laws that

discourage discrimination for those with disabilities, but these are the three most noteworthy for the purpose of this paper.

Wright, McCorquodale, and Bronzon Act

In California, the state legislature passed the Wright, McCorquodale, and Bronzon Act (AB3777) into effect in 1988 to fund three integrated service systems for those with serious or disabling mental illness (AB3777, 1988; Meisel & Chandler, 1995). This integrated service system program includes an intake assessment of those who may be eligible for services. For those who qualify, it established a continuum of care including psychiatric support, assistance for activities of daily living, and supportive employment (Meisel & Chandler, 1995).

Funding for Services for those with Mental Illness

Federal Funding

In 2020 mental health costs are expected to comprise 6.5% of the \$4.3 trillion that Americans pay for health care (Substance Abuse and Mental Health Services Administration, 2014). For all services, the federal government paid \$750.2 billion for Medicare in 2018 and \$597.4 billion for Medicaid (Center for Medicare & Medicaid Services, 2019). Within Medicaid, MediCal, the Medicaid program for California, costs \$60 billion, with the state average of \$4,856 paid per client for mental health services in 2011 (California HealthCare Foundation, 2013). Among US citizens, Medicaid accounts for 25% and Medicare accounts for 15% of mental health spending (Substance Abuse and Mental Health Services Administration, 2016). However, among the severely mentally-ill populations that use supportive employment services, these percentages are likely to be much higher, due to the vast majority of patients having low income and persistent disability. Other federal spending accounts for 6% of the mental health treatment spending (Substance Abuse and Mental Health Services Administration, 2016). Care in general and psychiatric hospitals accounts for 27% of mental health spending specifically.

County and State Funding

In San Mateo County, many of the psychiatric clients are served by the Cordilleras Mental Health Center. This facility currently has 117 beds, but in 2021 the facility will expand to 137 beds through a \$125.7-million-dollar project (County of San Mateo, 2019). The San Mateo Medical Center also provides 3,200 emergency psychiatric evaluations, and cares for 500 inpatient clients, with an average of roughly 20 inpatient days per client per year (County of San Mateo, 2019). In the 2018-2019 the county is expected to pay \$207,525,705 for behavioral health and recovery services, of which \$48,883,911 is the net cost to the county (Pine, Groom, Horsley, Warren, & Canepa, 2018). Some of these costs are paid for by the Mental Health Services Act of 2004. This law imposed a 1% income tax on personal income in excess of \$1 million dollars, and these funds support the infrastructure, technology, and training in county mental health programs (Feldman, 2009). The county serves as a safety net to pay for uninsured adults and crisis mental health services after payments are exhausted from MediCal and MediCare (California HealthCare Foundation, 2013).

The California State Department of Rehabilitation provides funding for programs that provide support through job coaching once a consumer has been successfully placed in a competitive employment opportunity (Department of Rehabilitation, 2019). In 2019, the Department of Rehabilitation authorized \$30,963,000 for Supportive Employment state grants (Department of Education Rehabilitation Services, 2019). The funding for these programs in part comes from the Mental Health Services Act, which designates 45% of its budget for community services and support (Feldman, 2009). For vocational services provided to mental health clients, the federal government matches 78.7% of what the county government spends (Borland & Brooks, 2001). As of the 2018-2019 fiscal year, the San Mateo County on-average pays \$2,757 per client receiving Vocational Rehabilitation Services (Sparks, 2019).

Supportive Employment agencies are paid \$39.35 per hour by the state of California using contract funds for providing supportive employment services for clients with mental illness (California Code, Welfare and Institutions Code - WIC § 4860, n.d.). Approximately 4,800 individuals with mental health or other disabilities across the state work in Supportive Employment Program Individual Placement jobs (Futures Explored Inc., n.d.). The Supportive Employment Program is a hybrid system that uses preliminary benchmarks such as employment preparation, extensive job search, and skills assessment through job development (Disability Rights California, 2016). The job coach is an integral part of this program and his or her function is to find and maintain employment for people with mental health issues (Futures Explored Inc., n.d.). Job coaching is the last stage of the hybrid system before a person being served is slowly weaned from the outside source to that of the devices provided by the employer.

Explanation of Supportive Employment Services

In California, the first step in receiving supportive employment services is a referral from the county office of behavioral health and recovery services for those with severe and persistent mental illness. The referral is made to the Department of Rehabilitation (Department of Rehabilitation, 2019). The client is given a choice of which vendor to choose for employment services. After the intake by that vendor, the client starts employment preparation and job development.

In employment preparation, work is done collaboratively between the agency staff and the mental health client to find a list of potential jobs. The agency staff works to identify potential barriers and to find solutions to those barriers in an effort to improve the likelihood of successful placement (Shaheen, Williams, & Dennis, 2003). The agency provides pre-vocational support and job readiness services to ensure that the client secures the specific job that he or she

wants and is qualified for. These jobs should satisfy both their income needs and employment aspirations.

The agency brings knowledge of the jobs available in the community, comprehension of the real-life demands of the industries, and a clear understanding of the skills and preferences of the job applicant. The agency assists with application preparations and updating/creating résumés tailored to match the specific needs of the employer and highlight the experience and employment goals of the mental health client (Shaheen, Williams, & Dennis, 2003). The agency then reaches out to employers on the mental health client's behalf to solicit information about job openings and ultimately secure job interviews. The agency has a solid understanding of the many incentive programs available to the employers for working with people with severe mental health issues, such as work-opportunity tax credit, a federal tax credit for employers hiring individuals who have faced significant barriers to employment (Shaheen, Williams, & Dennis, 2003). The agency communicates these incentives to the employer to advocate for opportunities for their clients. Additionally, prior to an actual interview, the agency will simulate job interviews, with questions specifically focused on that particular industry, gaps in employment, or other difficult questions that may be asked in their interviews. During this process, the agency helps the person identify strengths and personal skills that can be detailed to the prospective employer in the interviews.

Once the person obtains the job, supportive employment agencies generally offer job coaching, either on-site with the client, or off-site when the client is not at work (Department of Rehabilitation, 2019). Clients with a mental health diagnosis have the option to choose between the two types of coaching, or no coaching at all (Department of Rehabilitation (2019).

When the client opts for on-site coaching, the job coach travels to the employment site of the now-employed mental health client. The job coach's primary responsibility is analyzing the

client's job tasks at the place of employment, so that he or she can provide the on-site training to the client with serious mental illness. The coach breaks down the hard to understand processes of the client's job into phases that the person can comprehend (Disability Rights California, 2016). The job coach must document and evaluate the client's performance, while developing productive relationships with the management of the given company (Ohtake & Chadsey, 2003). Of equal importance, the job coach must model professional behavior and effective work skills. The on-site job coach concentrates his or her efforts on coursework routines, episodic work routines, and other job-related routines that are required of any other employee at that particular place of employment (Ohtake & Chadsey, 2003). In collaboration with the job developer, the job coach initiates the accommodations approved by the employer for the client to perform the job (Ohtake & Chadsey, 2003). A coach who is required to be on-site drives the agency-provided vehicle, or his or her own vehicle while reporting and documenting mileage according to the state or the supportive employment agency guidelines.

The job coach also learns the job as if it were his or her own, and models any necessary components of the job to better instruct the person being served, above and beyond the training provided by the employer. This modeling typically includes the pace of work and any dangerous components of the job, ultimately guiding the person being served through the first 90 days of employment (the so-called probationary period) (Ohtake & Chadsey, 2003). In sum, the job coach's role at the worksite is to act as a buffer between the employer and the employee during this first 90-day critical stage. The job coach who is on-site focuses on building relationships between the clients and other employees of the organization. Building relationships with coworkers works toward the ultimate goal of fading out and having those coworkers act as natural supports for the client going forward.

Off-site job coaching differs greatly from on-site coaching. As mentioned above, there is much more opportunity for training and reinforcement of any procedural requirements of the person being served through modeling by the on-site coach (Disability Rights California, 2016). Clients who use off-site coaching do not have the opportunity to learn from the repeated tutelage of the on-site coach, as the coaching occurs outside of the place of employment. Off-site coaches primarily meet their clients after work, or use phone calls and texts to support the person being served to the best of their ability. Off-site coaches arrange for meetings with the clients at coffee shops or in the client's homes, prior to work or afterwards (Disability Rights California, 2016). In these interactions, off-site coaches inquire about the day's events, the client's interaction with the public and management, and other concerns of the client.

Caminar for Mental Health and the Jobs Plus Program

Caminar for Mental Health, founded in San Mateo County in 1964, will serve as the main agency evaluated for effectiveness of the coaching model and value of the costs associated with it (About Caminar, 2015). A nonprofit organization with Supportive Employment Services, Caminar's services and programs help more than 20,000 individuals each year across Solano, Santa Clara, San Mateo, San Francisco, and Butte counties (About Caminar, 2015). In San Mateo county specifically (the branch of the agency providing the data for analysis), the referrals come from Department of Rehabilitation offices located in San Bruno, Foster City, and Menlo Park. Additional referrals come from the offices at San Francisco and Santa Clara for clients who aspire to work in San Mateo county.

Caminar's supportive and behavioral health services focuses on enabling wellness, independence, and resilience (About Caminar, 2015). Caminar exists in order to serve individuals with disabilities to realize their maximum potential for self-directed personal growth and an independent lifestyle (About Caminar, 2015). In terms of employment specifically,

Caminar works to enhance vocational opportunities that will assist clients in achieving personally satisfying lives.

Jobs Plus, a program of Caminar for Mental Health since 1992, provides comprehensive assessment services, job placement and intensive job coaching to the clients placed by the service, with the goal of sustained employment (Caminar Jobs Plus, 2015). The San Mateo Department of Rehabilitation works with the most severely disabled individuals; these clients are referred to the organization due to its vast experience working with that particular population. Clients are only referred after the counselors at the Department of Rehabilitation deem that their clients with mental health diagnoses are ready for competitive employment, which is determined by their interactions and interviews with these clients. Once clients go through the intake process, they start on employment preparation, and apply for jobs once they have shown a readiness throughout their participation in services.

Jobs Plus works to match clients to jobs that match their skills, ability, and education levels. Using the IPS model, Jobs Plus endeavors to place people in competitive employment at a competitive wage. The cornerstone of the program is matching the client with a job coach who can provide support on or off the premises of the employer (Caminar Jobs Plus, 2015). Job retention is the ultimate goal for the client, as well as for the team of individuals associated with helping the client reach that goal. Clients are encouraged to use on-site job coaching, especially if they have a history of recent hospitalizations or poor employment outcomes. However, any and all services are at the client's discretion. The hours of the job coach are negotiated with the Department of Rehabilitation based on client need and preference. After passing the 90-day probationary period, those people are then considered closed successfully with the Department of Rehabilitation, the primary funding source for Caminar's Jobs Plus program (Caminar Jobs Plus, 2015).

LITERATURE REVIEW

There is an increased likelihood of hospitalization for the mentally ill who are jobless and underemployed (Jäckel, Kupper, Glauser, Mueser, & Hoffmann, 2017). Hospitalization can also reduce meaningful contact with mainstream society (Jäckel, Kupper, Glauser, Mueser, & Hoffmann, 2017). Employment is important for those in all walks of life to receive fulfillment, but the importance of employment is magnified for those with mental illness. Meaningful work provides financial security, a sense of personal identity, and opportunity for individuals to make contributions in their own lives and that of their community (Dunn, Wewiorski, & Rogers, 2008). By increasing self-esteem and perceived quality of life, successful employment can stop a cycle of low standards of existing, decreased self-perceptions, and desperation. In contrast, mentally ill patients who are unemployed face unstructured daily routines, boredom, and social isolation (Hinshaw, 2007).

The workplace also provides opportunity for accomplishments and achievement where other environments cannot. However, mental illness, depending on the severity, can affect a person's ability to maintain employment and personal relationships (Mayo Clinic, 2019). Because of stigma and exclusion, finding employment can be challenging for those people suffering from mental illness. Progress in this area has been made in recent years, but there still is a very distinct gap in employment between those who have disabilities compared to those who do not. A recent study found that only 17% of all people with disabilities are employed (Baker, Linden, LaForce, Rutledge, & Goughnour, 2018). People with psychiatric disabilities are often misunderstood, and because of lack of understanding by the general public, are often overlooked in the employment realm (Stier, & Hinshaw, 2007). Stress can also be a major challenge for those people with mental illness in the workforce. Most people, regardless of a mental health diagnoses, face stress while working on a daily basis (Allan, Dexter, Kinsey, & Parker, 2018).

This daily stress can compound existing mental health issues, causing further emotional harm and negative physical implications. Agencies working to find successful employment for the mentally ill must address these challenges in order for the employment to be long lasting and rewarding. However, achieving and maintaining competitive employment for people with mental health disabilities is possible, and necessary for beneficial outcomes. People with mental health diagnoses who have a team working on their behalf prosper when acknowledged as an integral part of planning and strategizing workplace activities and procedures (Bond, 2004).

Research demonstrates that in order to be successful, workplace integration for people with severe and persistent mental health issues depends on many factors (Baker, Linden, LaForce, Rutledge, & Goughnour, 2018). First, the employer must be willing to make the reasonable accommodations necessary for those employees who require them. Integration and support is often difficult for employers to understand and embrace. Organizations struggle with recognizing that the mental health issues of their employees is a fundamental concern that needs to be addressed as vital to their company's success. Hiring managers often are not trained properly to understand antidiscrimination laws, and are not aware of internal and external policies that protect prospective employees from discrimination. Many employers, often due to their own experiences with mental illness or experiences with close relatives suffering from mental health issues, have a positive outlook on the employment of the mentally ill (Shankar et al., 2014). This attitude has become increasingly prevalent in recent years. However, some employers continue to associate people with mental illness with chronic absenteeism and overall lack of work productivity (Shankar et al., 2014).

The primary conceptual framework in use by mental health services for job employment is the Individual Placement and Support (IPS) model. This model focuses on mental health client choice, rapid job search, competitive employment, and job supports through supported

employment agencies (Bond & Drake, 2014). Supported employment agencies fill a niche that helps marginalized populations find and maintain competitive employment. Securing competitive jobs that have the potential to become permanent instead of temporary or time-limited (such as seasonal or temp work) is the goal of supported employment agencies (Bond, Drake, & Becker, 2012).

Effectiveness of Models of Job Services

While the IPS model focuses on competitive employment, old models focused on sheltered or temporary employment for the mentally ill. These programs created a difficult conversion for the client when transitioning to a competitive work environment. Using a multidisciplinary team focused approach to securing competitive employment proved to be more successful than the antiquated transitional employment, in terms of retention and job placement (Chandler, Meisel, Hu, McGowen, & Madison, 1997; Corbière, et al., 2011; Kinoshita et al., 2013). This model has also been shown to be more cost effective than other vocational services models (Luciano et al., 2014).

The Johnson-Johnson-Dartmouth Program model, as it pertains to supported employment, was one of the first avenues for those with persistent mental health issues to find vocational pursuits outside of day programs (Becker, Drake, Bond, Nawaz, Haslett, & Martinez, 2011). The model focuses on promoting self-direction, empowerment, and relationships. This model's foundation is the idea that those with mental health issues can work and should be allowed to, in any competitive environment (Becker, Drake, Bond, Nawaz, Haslett, & Martinez, 2011). This model was directly adopted in twelve states, and its central philosophy has set the standard for supportive employment agencies throughout the country (Becker, Drake, Bond, Nawaz, Haslett, & Martinez, 2011). Supported employment agencies, by providing competitive employment opportunities to people with severe or persistent mental health issues, play an

important role in improving the quality of life for their participants and in keeping those participants, as integrated members in the community (Jäckel, Kupper, Glauser, Mueser, & Hoffmann, 2017).

Existing Literature Comparing On-Site and Off-Site Coaching

There is little existing literature about the comparative benefits of on-site versus off-site coaching success. The literature largely addresses the benefit of job coaching as a whole, without differentiating between on-site versus off-site coaching. Based on the nature of the coaching, those using off-site coaching may be more likely to wait until a problem has already manifested itself before seeking the advice of the coach. Additionally, off-site coaching may not afford enough time in many situations to fix an existing problem once it has begun. While there is evidence that those using supportive employment services have decreased hospitalization rates, there is no specific comparison between those using on-site and off-site job coaching (Bond, 2014). Based on the more specialized focus of on-site coaching, and the added benefit of an in-person relationship with the client, this research hypothesized that on-site job coaching would be more effective in securing lasting employment, and decreasing hospitalization rates for clients with mental health disabilities, than off-site coaching.

METHODOLOGY

Research Description

This research uses a mixed methods approach to evaluating the relative benefits of Caminar's on-site and off-site supportive employment job coaching, using the Sylvia & Sylvia (2012) outcome analysis, and a cost benefit evaluation. This research compares the difference between the two implementation models of on-site and off-site coaching within the supportive employment program, in regards to hospitalization rates for 90 days before beginning the program and during the program, and percentages of clients successfully passing the 90-day probationary period compared with those who fail to pass the probationary period. Further, it examines the cost of the program compared to savings from avoided hospitalizations as the benefits.

The outcome evaluation focuses on the supportive employment services offered by Caminar's Jobs Plus, a supportive employment agency following the Johnson & Johnson-Dartmouth model, based in San Mateo, California (Becker, Drake, Bond, Nawaz, Haslett, & Martinez, 2011). This research is focused on data from the past 2 years (fiscal years 2017-2018 and 2018-2019).

The findings of this research are then used to examine the cost effectiveness of the job coaching programs and compare both the outcomes and the costs of on-site compared to off-site coaching, using the cost of hospitalization as one measure, and the costs of each type of coaching as the other. The outcome evaluation, as shown in Figure 1, examines the length of employment and the rate of unsuccessful closures, including those due to re-hospitalization. This evaluation measured which job coaching approach was more successful in helping clients pass probation, and whether the improved level of client success was justified by the extra cost of on-site counseling when compared to the avoided costs of re-hospitalization.

Figure 1: Supportive Employment Model: Job Coaching through Caminar's Job Plus

Theoretical Goal	Goals	Program Functions	Proximate Indicators	Measures
To keep people with a history of mental illness gainfully employed	<p>G1: Keep those with serious mental health issues in their jobs past the probationary period</p> <p>G2: Decrease days in the hospital for those with serious mental health issues through employment</p>	<p>F1: Intake appointments assess mental health clients' job readiness (G1-G2)</p> <p>F2: Job coach works with the client on a regular basis (G1)</p> <p>F3: Job Coaches keep reports on job progress (G1)</p> <p>F4: Job Coaches keep reports on hospitalization (G2)</p>	<p>I1: Number of times participants are hospitalized before intake (F1)</p> <p>I2: Number of weeks clients work (F2)</p> <p>I3: Number of people passing their probationary period (F3)</p> <p>I4: Number of times participants are hospitalized during the probationary period (F3)</p>	<p>M1: Intake Reports showing days in the hospital before intake (I1)</p> <p>M2: Track the number of weeks worked through monthly progress reports (I2)</p> <p>M3: Track the number of people failing probation (I3)</p> <p>M4: Track number of days in the hospital during probation (I4)</p>

Data

Data for this research was provided in de-identified form by the Caminar program. It covers monthly reports submitted by job coaches to program coordinators detailing their interactions with working mental health clients. While the research concerns human subjects, the data does not include any personally identifiable information, and thus the qualifications for an IRB exclusion are met.

The data includes 2-years of outcomes from the fiscal years 2017-2018 and 2018-2019 at the San Mateo county office, collected monthly from job coaches with variables of type of coaching, retention rates, and number of days in the hospital. The variables are the days in the

hospital over the 3-month period immediately before the successful job placement, and days in the hospital after the client starts work until the end of the 90-day probationary period. Those who pass the probationary period form the percentage of successful closures from the program, whereas those who do not pass the probationary period form the percentage of unsuccessful closures. These rates are compared for the on-site and off-site job coaching.

The anticipated outcomes are shown below in Figure 2 and Figure 3 based on the analysis of those entering the program during the 2017-2019 fiscal years.

Figure 2: Anticipated Outcomes

Measures	Anticipated Outcomes
M1: Intake Reports showing days in the hospital before intake	M1: Participants spend between 4-6 days in the hospital on average before intake
M2: Track the number of weeks worked through monthly progress reports	M2: Participants on average work at least 7 weeks out of the probationary period.
M3: Track the number of people passing probation	M3: A moderate number of people (40% or more) pass probationary period.
M4: Track number of days in the hospital during probation	M4: Few participants (20% or less) have 3 or more days in the hospital, which leads then to lose their jobs due to hospitalization

Figure 3: Anticipated Outcomes for On-Site Versus Off-Site Job Coaching

Counseling Type	Measures	Anticipated Outcomes
On-Site	<p>M1: Intake Reports showing days in the hospital before intake</p> <p>M2: Track the number of weeks worked through monthly progress reports</p> <p>M3: Track the number of people failing probation</p> <p>M4: Track number of days in the hospital during probation</p>	<p>AO1: Those using on-site coaching spend more days in the hospital before intake</p> <p>AO2: Those using on-site coaching work more weeks during the probation period</p> <p>AO3: A higher percentage of those using on-site coaching pass their probation period</p> <p>AO4: Those using on-site coaching have fewer days in the hospital during probation, and a greater reduction in hospital days when compared to their days in the hospital before intake</p>
Off-Site	<p>M1: Intake Reports showing days in the hospital before intake</p> <p>M2: Track the number of weeks worked through monthly progress reports</p> <p>M3: Track the number of people failing probation</p> <p>M4: Track number of days in the hospital during probation</p>	<p>AO1: Those using off-site coaching spend more days in the hospital before intake</p> <p>AO2: Those using off-site coaching work fewer weeks during the probation period</p> <p>AO3: A smaller percentage of those using off-site coaching pass their probation period</p> <p>AO4: Those using off-site coaching have more days in the hospital during probation, and a smaller reduction in hospital days when compared to their days in the hospital before intake</p>

The complete outcome evaluation demonstrates the length of employment, successful rate of closure, and number of hospital re-entry occurrences. The number of days that the patient spends in the hospital before placement in the job were compared to after placement in the job, and for the on-site and off-site clients. Then these differences were compared to determine which type of coaching model has the best decrease in hospitalization rates. A comparison of the rates of successful closure for the on-site as opposed to off-site clients was conducted to determine which group was more likely to pass the probationary period. Additional comparisons were then completed to provide more information about any differences found. The value of the two implementation models is determined by assessing the overall hospitalization rate for on-site and off-site job coaching before job placement and after beginning the job, along with the difference in successful completion rates for the 90-day probationary period. The method of job coaching that has the fewest days in the hospital after beginning the job and that has the highest percentage of successful 90-day probation completion rate is the model with the best outcomes.

A cost-benefit analysis is using on-site and off-site job coaching costs over the probationary period, and costs of hospitalization per client as the cost factors. The benefit of the program is minimizing the percentage of participants losing their jobs due to hospitalization, while maximizing the length of employment to probation completion. The program with the best benefit while weighing the cost is proposed as the model method of job coaching for the best outcomes, and the practical implications of this are explored, along with proposed recommendations for policy.

To quantify the impact of the program, government records and national/state averages were examined to determine an average cost of a hospital stay per day to the government for the mental health clients. The true cost varies significantly per client due to a variety of variables, such as type of medication, nature of the illness, and security procedures. Actual hospitalization

costs per client are protected by the Health Insurance Portability and Accountability Act (HIPAA), which stipulates that only the clients themselves and any named appointed representatives by that client (such as a parent or significant other) have the right to access health records (Office for Civil Rights, 2020). Under this law, records can only be sent to a third party by the client himself or herself, or to consult with another provider, as needed, for treatment (Office for Civil Rights, 2020).

The costs of the supportive employment program to the government are compared separately for those using the on-site and off-site job coaching models, including the amount paid per hour by the government for the coaching and transportation. These numbers are generated based on the records from Caminar's Jobs Plus, as well as from government data.

FINDINGS

The study included 65 people, all referred by the California State Department of Rehabilitation to Caminar's Jobs Plus program at San Mateo County within the 2017-2019 fiscal years. All clients in the time period choose to have some form of coaching, either on-site or off-site. One person was excluded from analysis due to the inability to secure the hospitalization records before referral. Of the remaining people, 22 people chose off-site coaching and 42 people chose on-site coaching. This was at the discretion of the client.

1. Is on-site or off-site job coaching more closely associated with decreased hospitalization rates and increased job retention rates for the mentally ill?

On the following two pages in Figure 4a and 4b, there is a summary of the outcome analysis for both the on-site and off-site groups, along with the criteria for the outcome evaluation. All predicted differences between those using on-site and those using off-site coaching were shown through the analysis.

Figure 4a Supportive Employment Model: On-Site Job Coaching

Theoretical Goal	Goals	Program Functions	Proximate Indicators	Measures	Valence of On-site Coaching
To keep people with a history of mental illness gainfully employed	<p>G1: Keep those with serious mental health issues in their jobs past the probationary period</p> <p>G2: Decrease days in the hospital for those with serious mental health issues through employment</p>	<p>F1: Intake appointments assess mental health clients' job readiness (G1-G2)</p> <p>F2: Job coach works with the client on a regular basis (G1)</p> <p>F3: Job Coaches keep reports on job progress (G1)</p> <p>F4: Job Coaches keep reports on hospitalization (G2)</p>	<p>I1: Number of times participants are hospitalized before intake (F1)</p> <p>I2: Number of weeks clients work (F2)</p> <p>I3: Number of people passing their probationary period (F3)</p> <p>I4: Number of times participants are hospitalized during the probationary period (F4)</p>	<p>M1: Intake Reports showing days in the hospital before intake (I1); those using on-site coaching had 5.12 days in the hospital on average before intake</p> <p>M2: Track the number of weeks worked through monthly progress reports (I2); those using on-site worked on average 10.29 weeks</p> <p>M3: Track the number of people failing probation (I3); those using on-site had 71.43% pass probation and 28.57% fail probation</p> <p>M4: Track number of days in the hospital during probation (I4); those using on-site had 2.32 days in the hospital on average during probation</p>	<p>V1: Those using on-site had 2.07 more days in the hospital on average before intake than those using off-site coaching (+)</p> <p>V2: Those using on-site spent 1.88 more weeks on the job on average than those using off-site (+)</p> <p>V3: Those using on-site had 16.88% more people pass probation than those using off-site coaching (+)</p> <p>V4: Those using on-site had 0.53 fewer days in the hospital on average after intake than those using off-site coaching (+)</p>

Figure 4b Supportive Employment Model: Off-Site Job Coaching

Theoretical Goal	Goals	Program Functions	Proximate Indicators	Measures	Valence of Off-site Coaching
To keep people with a history of mental illness gainfully employed	G1: Keep those with serious mental health issues in their jobs past the probationary period	F1: Intake appointments assess mental health clients' job readiness (G1-G2)	I1: Number of times participants are hospitalized before intake (F1)	M1: Intake Reports showing days in the hospital before intake (I1); those using off-site coaching had 3.05 days in the hospital on average before intake	V1: Those using off-site had 2.07 fewer days in the hospital on average before intake than those using on-site coaching (+)
	G2: Decrease days in the hospital for those with serious mental health issues through employment	F2: Job coach works with the client on a regular basis (G1)	I2: Number of weeks clients work (F2)	M2: Track the number of weeks worked through monthly progress reports (I2); those using off-site worked on average 8.41 weeks	V2: Those using off-site spent 1.88 fewer weeks on the job on average than those using on-site (+)
		F3: Job Coaches keep reports on job progress (G1)	I3: Number of people passing their probationary period (F3)	M3: Track the number of people failing probation (I3); those using off-site had 54.55% pass probation and 45.45% fail probation	V3: Those using off-site had 16.88% fewer people pass probation than those using on-site coaching (+)
		F4: Job Coaches keep reports on hospitalization (G2)	I4: Number of times participants are hospitalized during the probationary period (F4)	M4: Track number of days in the hospital during probation (I4); those using off-site had 1.79 days in the hospital on average during probation	V4: Those using off-site had 0.53 more days in the hospital on average after intake than those using on-site coaching (+)

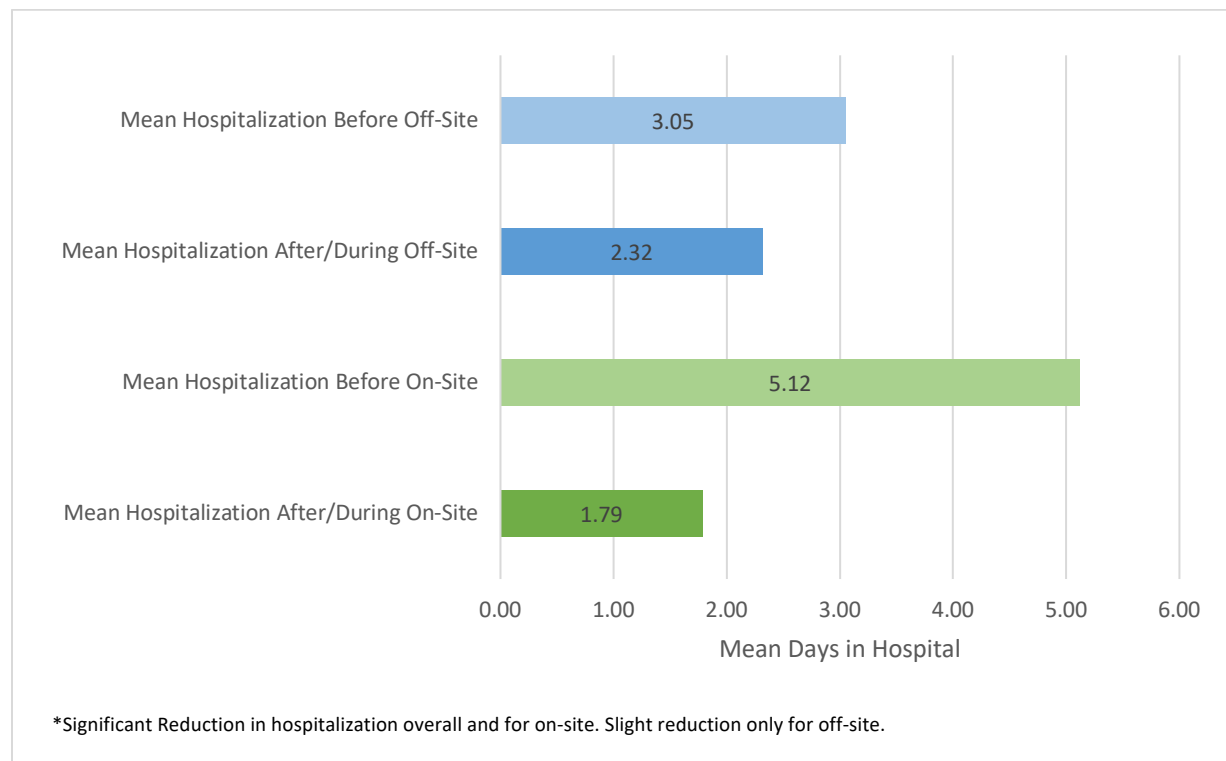
Hospitalization rate differences were first compared. Overall, there was a significant decrease in hospitalization days between the 90-days before intake and the 90-days after intake, from an average of 4.41 days in the hospital before to 1.97 days in the hospital afterwards. The number of days in the hospital before intake was on target with the hypothesized 4-6 days in the hospital before intake, and thus these clients had an anticipated need for support before starting coaching.

The difference between hospitalization before and after intake was largely due to the difference in the on-site coaching clients' hospitalization. There were large existing differences in the hospitalization rates before intake for those two groups. Considering that the program is based on self-selection as it pertains to on-site/ off-site coaching, the client has the final word on whether to use one or the other. However, there is an abundant amount of education and counseling provided to the client about the benefits of on-site coaching. Those who chose on-site coaching had an average of 5.12 days in the hospital before referral, while those who chose off-site coaching had an average of 3.05 days in the hospital before referral. These differences are shown in Figure 5. While these two groups had different pre-hospitalization rates before referral, after referral the average hospitalization rate for clients using on-site coaching was less than those for off-site coaching. The pre-employment difference in hospitalization rates between those clients using on-site coaching and those clients using off-site coaching will be discussed more in the Analysis/Conclusion.

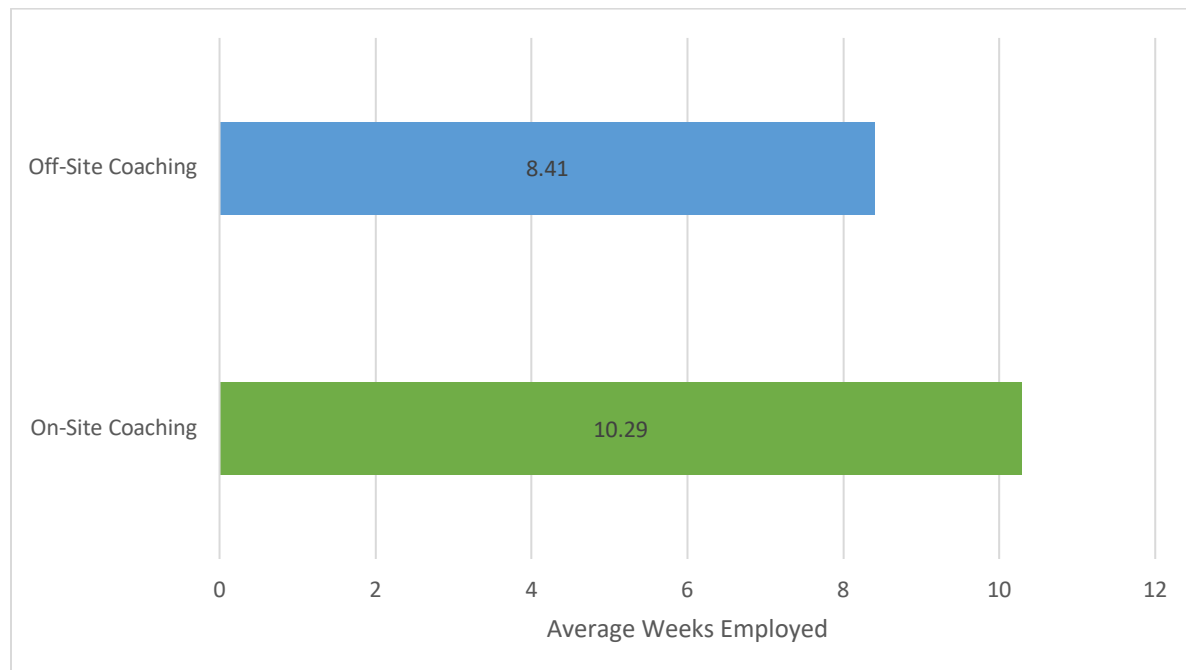
Clients using off-site coaching and on-site coaching both showed decreased hospitalization rates when comparing their pre-employment hospitalization to their hospitalization after referral. However, clients using on-site coaching had a far greater reduction in number of hospitalization days, from 5.12 days before referral to 1.79 days after referral. Clients using off-site only had a reduction from 3.05 days before referral to 2.32 days after

referral. Therefore, those using on-site coaching had lower hospitalization rates after referral than those using off-site coaching. These differences in hospitalization rates are shown in Figure 5.

Figure 5: Hospitalization Rates Before/After Referral

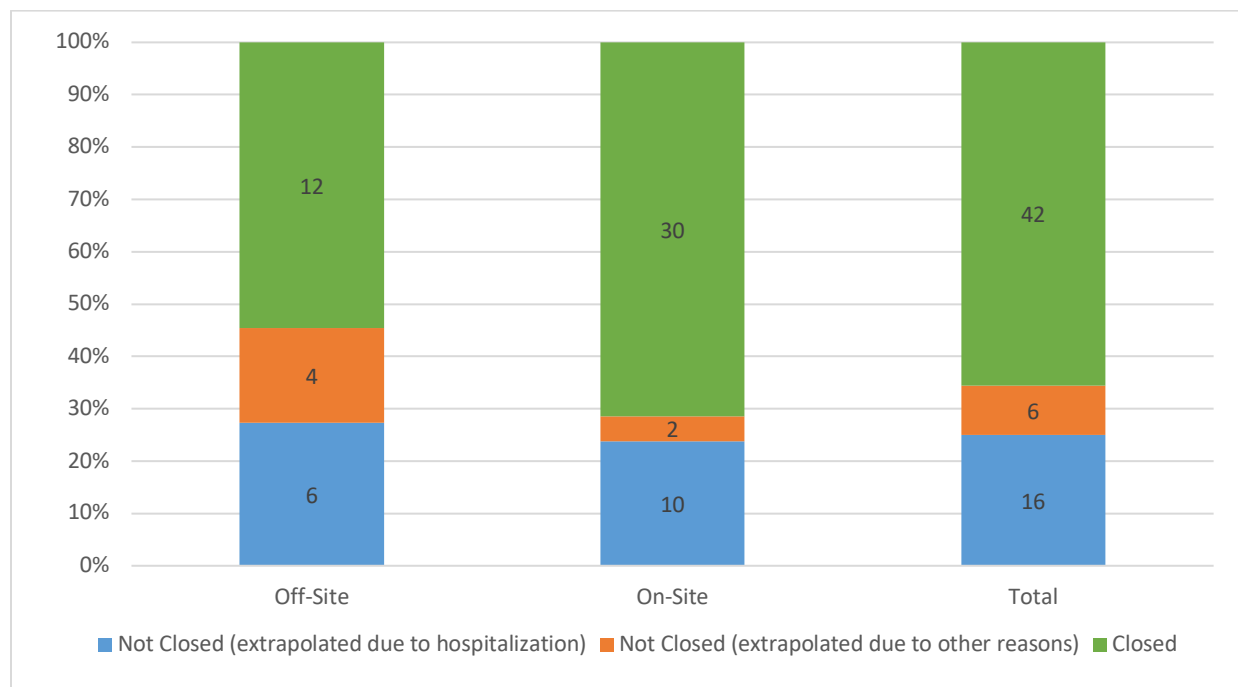


In addition to changes in rates for hospitalization, time on the job was compared for those using off-site coaching and on-site coaching. Employment history was measured for the 90-day probationary period. Time on the job was measured in weeks, with fractions of a week rounded up to another week on the job. On average, the 64 clients in the research worked 9.64 weeks on the job during the 90-day probationary period. This is within the at least 7 weeks on average that was predicted that clients would work on the job. Those using off-site coaching had an average of 8.41 weeks on the job during the 90-day probationary period, while those using on-site coaching had an average of 10.29 weeks on the job. Thus, those using on-site coaching tended to keep their jobs longer than those using off-site coaching, as shown in Figure 6.

Figure 6: Comparison of Time on the Job between Off-Site and On-Site

Average weeks on the job is closely related to the closure rates of the clients. Overall, 65.63% of clients successfully closed (i.e. still had their employment after 90-days), far more than the anticipated 40%. Out of the 22 total people who did not close, 16 people had 3 or more days in the hospital within 90-days following their referral date. Thus, this research demonstrates that 16 out of the 64 clients (25%) of the sample lost their employment due to hospitalization.

Of the 22 total people in the sample who did not close, 12 were using on-site coaching and 10 were using off-site coaching. Thus, while 54.55% of clients using off-site coaching were successful after 90-days, 71.43% of clients using on-site coaching successfully closed. By closing, on-site clients kept their jobs for the full 90-day probationary period, and thus on average proportionally more clients using on-site coaching kept their jobs longer than those clients using off-site coaching, as shown in Figure 7.

Figure 7: Proportions of Closure for On-Site Vs. Off-Site

As shown in Figure 7, of those who did not close, 10 out of the 12 using on-site coaching had 3 or more days in the hospital during the probationary period, and 6 of the 10 using off-site coaching had 3 or more days in the hospital during the probationary period. Thus, this research infers that 27.27% of those using off-site coaching lost their jobs due to hospitalization, while 23.81% of those using on-site coaching lost their jobs due to hospitalization. This averages to 25% of clients overall in the study who are inferred to have lost their jobs due to hospitalization. This was more than the hypothesized 20% or less that this research expected for job loss due to hospitalization, meaning that hospitalization is a more prevalent cause of job loss than anticipated.

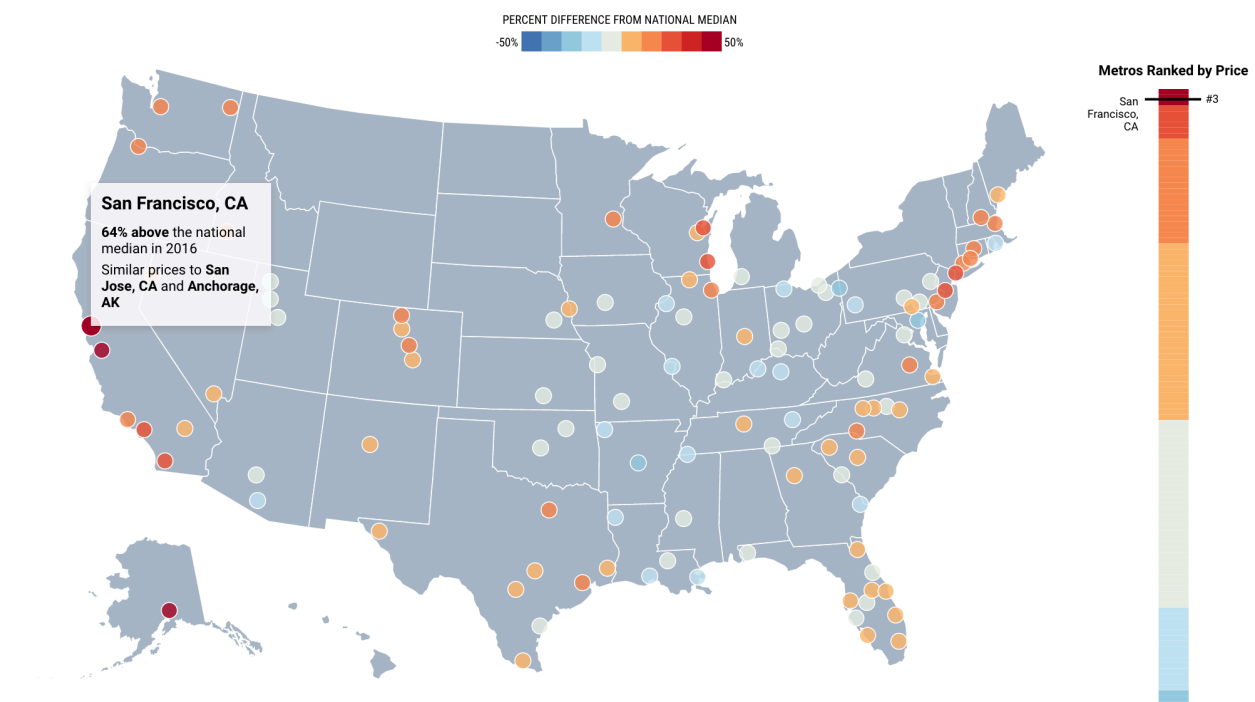
From differences in hospitalization after referral and retention rates in the form of percentage closed, the findings show that clients using on-site coaching have better outcomes than those using off-site coaching. Those using on-site coaching have both a greater decrease in hospitalization rates and a higher likelihood of passing the probationary period. However, on-site

coaching is more expensive, and the next section will evaluate whether these differences in outcomes justify that increased cost.

2. Does the savings from hospitalization justify the increased cost of on-site job coaching as compared to off-site job coaching?

When comparing costs of hospitalization, the 2018 data for the average cost per day for an in-patient stay in a state/local government hospital in California was used, which was \$3,269 per day (Kaiser Family Foundation, 2019). Psychiatric and substance abuse stays (many participants in the study had a co-occurring substance abuse disorder) are often less expensive than the average stay (Piper, 2011). However, costs for health treatment in the Bay Area are typically far greater than the national or even state average, as shown in Figure 8 (Johnson, Kennedy, Rodriguez, & Hargraves, 2019).

Figure 8: Map of National Hospital Costs



Source: Johnson, Kennedy, Rodriguez & Hargraves, 2019

Data is unavailable on the actual costs for hospitalization by client, as this information is protected and not submitted to Jobs Plus. However, the estimate of \$3,269 per day should serve as a conservative, reasonable estimate for most clients, and is used to estimate the cost of the client's hospitalization to the government just before he or she entered the program, and during the probationary period on the job. For purposes of the research, and due to the actual data being protected under HIPAA, the decrease in hospitalizations is imputed to the counseling services offered by Caminar. Some clients experienced an increase in hospitalization during the counseling period, and that is included in the cost calculations.

As previously mentioned, for those using off-site coaching, the average number of days in the hospital went from 3.05 days to 2.32 days. When multiplying these averages by the estimate of \$3,269 per day, the average cost to the government for hospitalization per client went from \$9,955.59 before referral to \$7,578.14 afterwards, for a moderate savings of \$2,377.45. For those using on-site coaching, the average number of days in the hospital went from 5.12 to 1.79 days. When multiplying these averages by the approximation for cost per day, the average cost to the government for hospitalization per client decreased dramatically from \$16,734.17 before referral to \$5,837.50, with a statistically significant savings of \$10,896.67 per client to the government on purely hospitalization costs.

While there are savings on hospitalization, it is acknowledged that the Caminar Jobs Plus program introduces other costs to the government to provide the coaching program. For this program to be truly effective at reducing the cost to the government for mental health clients related to hospitalization, the additional costs of running this program should not exceed the savings in hospitalization costs. Therefore, the costs of both coaching time and necessary transportation for the job coach to perform the essential duties of the job (both of which are charged to the government) were collected.

Figure 9: Costs per Hour Associated with Coaching

Type of Coaching	Rate per hour for Coaching Costs	Rate per hour for Transportation Costs
Off-Site	\$39.35, billed in 15-minute increments	\$39.35, billed in 15-minute increments, one-way
On-Site	\$39.35, billed in 15-minute increments	\$39.35, billed in 15-minute increments, one-way

Those clients choosing to use on-site coaching elected to have more coaching hours than those using off-site coaching, with an average of 6.73 hours for those using off-site coaching and 41.24 hours for those using on-site coaching. As shown in Figure 9, each hour of job coaching, regardless of type, costs \$39.35 to the government (with this money divided between the job coach and the agency) (Department of Rehabilitation, 2008). Multiplying the average number of hours by the cost per hour to the government, the average cost after referral for the coaching expense specifically for clients using on-site coaching \$1,622.79. Using a similar calculation, the average cost after referral for the coaching expense specifically for clients using off-site coaching is only \$264.83.

Transportation costs are billed to the government in 15-minute increments at the same cost per hour, \$39.35 (Department of Rehabilitation, 2008). As explained on the DR 384 form for payment by the Department of Rehabilitation, reimbursable travel only covers non-commute hours, meaning that the cost of the job coach to get to the first site of the day is not billed, but any subsequent travel to other sites that day is billed (Department of Rehabilitation, 2008). The vast majority of the costs per trip were \$9.84, the cost of 15-minutes of travel, due to the positioning by Jobs Plus of the job coaches. Additionally, travel is billed based on expected travel time, not actual travel time with traffic.

Off-site job coaches billed an average cost of \$18.78 per client in transportation cost, while on-site job coaches billed an average cost of \$109.30 per client. These differences in cost

align with the differences in coaching time between the two groups of those using off-site coaching and those using on-site coaching. Additionally, due to the nature of the methods, off-site coaches may not need to travel at all if they solely communicate with their clients over the phone, by text message, or through email. Seven out of the 22 clients in this analysis that used off-site coaching did only communicate with their coach remotely.

After adding the average cost of transportation with the average cost for coaching hours, the average cost of providing coaching for clients using off-site coaching is \$283.61, while the average cost of providing coaching for clients using on-site coaching is \$1,732.09. This is shown in Figure 10.

Figure 10: Average Costs Associated with Providing Coaching

Type of Coaching	Average Cost for Coaching Hours	Average Cost for Transportation Hours	Average Total Cost of Providing Coaching
Off-Site	\$264.83	\$18.78	\$283.61
On-Site	\$1,622.79	\$109.30	\$1,732.09

The on-site coaching was associated with far greater costs per client than the off-site coaching for providing the coaching services. However, as mentioned before, the decrease in hospitalization rates for on-site coaching resulted in a savings of \$10,896.67 per client to the government, while the decrease in hospitalization rates for off-site coaching resulted in a savings of only \$2,377.45 per client to the government. Thus, the additional costs of the on-site program are outweighed by the savings on hospitalization to the government.

The full costs per person are shown in Appendix A: Costs for Each Person in the Research.

ANALYSIS/CONCLUSION

Hospitalization Rates and Employment of Caminar's Jobs Plus

Results from this analysis shows a strong correlation between job coaching and reduced mental health hospitalizations. There was a significant reduction in total number of days hospitalized after referral while using this service compared to before referral to Caminar's Jobs Plus program. While exact data on participants' medical insurance is unavailable due to privacy concerns, given the state of their conditions, a large portion of these clients' hospitalization is paid in entirety by the government. By reducing hospitalization costs, the use of the Jobs Plus program produced a significant reduction in cost to the government, at both the federal and state levels. Even when factoring in the additional costs of running this program, including transportation costs and coaching hour costs, there is still a significant reduction in cost to the government.

While the costs of hospitalization vary by location, these results would likely be consistent when comparing the results of other supportive employment agencies both in California and at the national level. This is consistent with the existing literature, mentioned previously in the Background and Literature Review. The results of this study further document that job coaching has proven to be an effective means of reducing costs of mental health inpatient stays, and an effective service that supports individuals with serious mental illness.

Ultimately, recovery from mental health suffering, and staying outside of the mental health system on a regular basis, depends on many things, one of which is finding independence through competitive meaningful employment. The participants in this study chose competitive employment, which provides at least a minimum wage and other benefits, such as retirement plans and paid sick leave and vacation accrual, whereas sheltered workshops pay a sub-minimum wage, are not permanent employment, and provide no retirement options. Those participants in

the study used job coaching provided by Jobs Plus to obtain and keep jobs. Job coaching both supports the person and their needs, reducing the necessity of hospitalization, and increases the likelihood of lasting employment, which further reduces the likelihood of hospitalization. People in this program who used job coaching fared very well against the likelihood of hospitalizations while in the program. Use of job coaching helps people who want to work to keep their jobs. Clinically speaking, employment is viewed as a critical component of recovery and a principal treatment objective for individuals with psychiatric disabilities, as mentioned earlier in the paper.

With 65% of clients in the study successfully closing (meaning they pass the 90-day probationary period), the Jobs Plus program shows that it is effective at helping clients keep their jobs. This is due to job coaching programs such as Jobs Plus providing assistance and training, above and beyond that which an employer might provide to a worker who was not using coaching as an accommodation. Coaches play a critical role in providing positive feedback and reassurance for those clients who are either vocationally challenged or have recently reentered the workforce because of hospitalization or prolonged symptoms of mental illness. Successful clients in this analysis used job coaching to help manage their symptoms. Job coaches help to remind the clients to maintain the necessary habits for retaining their jobs, while reinforcing the capabilities they already have to succeed in competitive employment.

The 90-day probationary period is an important milestone for both the funding of supportive employment programs and from the perspective of the client. While there is no official standard, at most places of employment a person needs to pass a 90-day probationary period. The 90-day probationary period allows the employer and the employee a designated amount of time to determine whether the job is a match for both parties. It is a time when management progressively introduces an employee to the entire scope of the job's responsibilities. A relationship is established during this time between the employer and the

employee, which then may afford the employee more leeway after the probationary period as it pertains to their individual needs. It is the hope, then, of the government and the supportive employment agency that the 42 people in the study who successfully closed will maintain their employment for much longer than just 90-days.

Stigma plays a major role in the future employment of people with mental health issues; publication of research such as this can decrease this stigma among employers, taxpayers, and the general public. By demonstrating that these services are saving money and improving the quality of life of those with the mental illness, the stigma against those that use these services should be reduced.

Comparison of On-Site and Off-Site Job Coaching

This research demonstrated a significant relationship between the use of on-site coaching and a decreased number of days in a mental health hospital. The days spent in the hospital had a smaller reduction for those using off-site job coaching. Although those who elected to participate in off-site job coaching had a smaller number of hospital days before referral compared to those with on-site job coaching, the those using on-site job coaching still actually had even fewer days in the hospital after referral than those using off-site job coaching. This is related to the finding that those using on-site job coaching had a higher closure rate than those using off-site job coaching.

Due to participants being able to opt into each type of job coaching, the differences in outcomes may be related to existing participant differences. Additionally, those using on-site coaching also elected to meet with the job coach more often, and this added contact likely significantly impacted their ability to succeed in the job. However, as mentioned earlier, on-site coaching has many advantages over off-site coaching that may be responsible at least in part for the differing success rates. On-site coaching allows an individual access to a coach on a semi-

regular basis while performing their duties in real time. On-site job coaches form relationships with employers who ultimately lead to more successful outcomes than that of clients who use off-site coaching.

On-site coaches can personalize their efforts based on things that they are experiencing with the client while the client is at work. In real time, an on-site coach can effectively intervene on the behalf of a client when problems arise, and can preemptively curtail potential problems due to the fact that they are a second set of eyes for both the client and the employer while on-site (Ohtake & Chadsey, 2003). On-site coaches have the ability to witness the client's ability to interact with others while working, reaction to authority figures, frustration tolerance, and ability to handle responsibilities while it is happening. Those with mental health disabilities, especially those recently released from hospitalization, may struggle with their confidence and interpersonal skills and not have the ability to advocate for themselves. While coaching, the on-site coach can also judge a person's reaction to stress in the moment, and motivate or enhance a person's ability to learn other requirements on the job that come up as a result of unforeseen circumstances, such as a labor shortage on a particular day.

Educating the employer on the value added by having an on-site coach is one of the most important aspects of supported employment and coaching as a whole. In addition to a comprehensive plan created by the job coach and participant, getting the buy-in and support of the employer is of equal importance. Employers can increase their prospective labor pools by using agencies that provide supported employment and job coaching, and often reach out to the supportive employment vendors for prospective employees. Employers can learn how to properly provide accommodations and better understand an employee's disability. This is extremely important if the client feels that it is necessary to disclose his or her particular diagnosis and how that would impact the ability to perform the job on any given day. The job

coach can fill that gap effectively by working on-site and exploring job carving opportunities with the employer to best use the participant's skills and abilities in a timely and effective manner.

Those participating in supportive employment services are encouraged to strongly consider on-site coaching for the reasons mentioned above. Regardless of the type of coaching used, the findings demonstrate that the mental health clients who use more hours of coaching have better employment outcomes and fewer days in the hospital, and thus supportive employment agencies encourage clients to use as many hours of coaching as suits the needs of the client. However, despite the substantial evidence supporting this kind of intervention, not all clients choose on-site coaching.

Conclusions

A job coach can create alternative ways to adapt to a person's learning style, help with problem-solving, improve time management skills, and draw on his or her vast experience to help support the person at work, leading to high retention rates for the 90-day probationary period and lower hospitalization days for the mentally ill. While both types of coaching are beneficial, on-site coaching has better outcomes than off-site coaching. On-site job coaching in this study has proven to be more effective in both decreased number of days in the hospital and higher job retention rates.

This study demonstrates that there are potentially savings to the government on hospitalization costs from sponsoring job coaching programs using the supportive employment model.

Recommendations for Further Research

Future research should examine the relationships among the use of supportive employment services, length of employment, and length of hospitalization over a longer time span, preferably at least a year. Research focusing on a longer timespan would be essential to establishing performance measures that are somewhat adaptable. Providing ongoing coaching for those with mental health issues for at least a year would be more expensive, but it would be interesting to see how, in the long run, it might benefit those people by helping them to keep their jobs and reduce their number of days in the job. Such research could demonstrate whether coaching is cost-effective over a longer period of time. If positive results are found, this would provide support for potentially extending the coaching over a longer period of time than the 90-day probationary period without interruption.

For future consideration, it would be valuable for an experiment to randomly assign participants to the conditions of on-site coaching, off-site coaching, or no coaching at all. In such a study, participants would be required to participate fully in the program using this coaching regardless of the type that they are assigned. This random assignment would be irrespective of their previous work or educational experience. This would afford researchers the opportunity to analyze the effectiveness of both types of coaching regardless of the employment goal or personal preference. Such a study could be conducted in small-scale as a pilot to aid the government in a more thorough cost-benefit analysis of the effectiveness and benefits of supported employment programs.

The random assignment of participants to each type of coaching and a longer time frame to examine both employment records and hospitalization records would provide valuable information to assess whether there should be changes to government policies related to job

coaching or increased funding for programs, and to demonstrate the benefits of job coaching to employers and the general public.

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Appendix A: Costs for Each Person in the Research

Coaching Type	Cost of Hospitalization Before Referral	Cost of Hospitalization After Referral	Total Difference in Hospitalization Cost	Cost of Coaching Time	Transportation Cost
Off-site	\$ 32,690.00	\$ 29,421.00	\$ 3,269.00	\$ 108.21	\$ -
Off-site	\$ 29,421.00	\$ 39,228.00	\$ (9,807.00)	\$ 206.59	\$ 19.67
Off-site	\$ 3,269.00	\$ -	\$ 3,269.00	\$ 167.24	\$ -
Off-site	\$ 26,152.00	\$ 32,690.00	\$ (6,538.00)	\$ 147.56	\$ 9.84
Off-site	\$ 3,269.00	\$ 9,807.00	\$ (6,538.00)	\$ 39.35	\$ -
Off-site	\$ -	\$ -	\$ -	\$ 98.38	\$ 9.83
Off-site	\$ 39,228.00	\$ 35,959.00	\$ 3,269.00	\$ 137.73	\$ 19.67
Off-site	\$ -	\$ 3,269.00	\$ (3,269.00)	\$ 206.59	\$ 9.83
Off-site	\$ 3,269.00	\$ 6,538.00	\$ (3,269.00)	\$ 177.08	\$ -
Off-site	\$ 9,807.00	\$ 9,807.00	\$ -	\$ 118.05	\$ -
Off-site	\$ 3,269.00	\$ -	\$ 3,269.00	\$ 521.39	\$ 19.67
Off-site	\$ 9,807.00	\$ -	\$ 9,807.00	\$ 639.44	\$ 39.32
Off-site	\$ 6,538.00	\$ -	\$ 6,538.00	\$ 334.48	\$ -
Off-site	\$ 3,269.00	\$ -	\$ 3,269.00	\$ 472.20	\$ 9.83
Off-site	\$ 9,807.00	\$ -	\$ 9,807.00	\$ 442.69	\$ 19.67
Off-site	\$ 3,269.00	\$ -	\$ 3,269.00	\$ 265.61	\$ 9.83
Off-site	\$ -	\$ -	\$ -	\$ 314.80	\$ 9.83
Off-site	\$ 6,538.00	\$ -	\$ 6,538.00	\$ 236.10	\$ 29.51
Off-site	\$ 9,807.00	\$ -	\$ 9,807.00	\$ 167.24	\$ -
Off-site	\$ 3,269.00	\$ -	\$ 3,269.00	\$ 216.43	\$ 39.35
Off-site	\$ 9,807.00	\$ -	\$ 9,807.00	\$ 334.48	\$ 78.70
Off-site	\$ 6,538.00	\$ -	\$ 6,538.00	\$ 472.20	\$ 88.54
On-site	\$ 9,807.00	\$ 9,807.00	\$ -	\$ 1,367.41	\$ 49.15
On-site	\$ -	\$ -	\$ -	\$ 1,101.80	\$ 58.98
On-site	\$ 22,883.00	\$ 52,304.00	\$ (29,421.00)	\$ 236.10	\$ 19.67
On-site	\$ 9,807.00	\$ 19,614.00	\$ (9,807.00)	\$ 324.64	\$ 19.67
On-site	\$ 22,883.00	\$ 26,152.00	\$ (3,269.00)	\$ 472.20	\$ 39.32
On-site	\$ 49,035.00	\$ -	\$ 49,035.00	\$ 1,278.88	\$ 58.98

On-site	\$ 55,573.00	\$ 16,345.00	\$ 39,228.00	\$ 3,334.91	\$ 167.11
On-site	\$ 42,497.00	\$ 19,614.00	\$ 22,883.00	\$ 1,574.00	\$ 49.15
On-site	\$ 32,690.00	\$ 22,883.00	\$ 9,807.00	\$ 590.25	\$ 19.67
On-site	\$ 49,035.00	\$ 42,497.00	\$ 6,538.00	\$ 472.20	\$ 29.49
On-site	\$ 3,269.00	\$ 9,807.00	\$ (6,538.00)	\$ 885.38	\$ 49.15
On-site	\$ 32,690.00	\$ 16,345.00	\$ 16,345.00	\$ 609.93	\$ 78.64
On-site	\$ 42,497.00	\$ -	\$ 42,497.00	\$ 2,931.58	\$ 176.94
On-site	\$ 3,269.00	\$ -	\$ 3,269.00	\$ 1,013.26	\$ 58.98
On-site	\$ 32,690.00	\$ -	\$ 32,690.00	\$ 2,646.29	\$ 157.28
On-site	\$ 6,538.00	\$ -	\$ 6,538.00	\$ 1,770.75	\$ 196.60
On-site	\$ -	\$ -	\$ -	\$ 1,574.00	\$ 157.28
On-site	\$ -	\$ -	\$ -	\$ 1,692.05	\$ 176.96
On-site	\$ 3,269.00	\$ -	\$ 3,269.00	\$ 2,164.25	\$ 157.28
On-site	\$ 13,076.00	\$ -	\$ 13,076.00	\$ 1,446.11	\$ 117.96
On-site	\$ -	\$ -	\$ -	\$ 944.40	\$ 98.30
On-site	\$ -	\$ -	\$ -	\$ 619.76	\$ 68.81
On-site	\$ 3,269.00	\$ -	\$ 3,269.00	\$ 1,377.25	\$ 137.60
On-site	\$ 26,152.00	\$ -	\$ 26,152.00	\$ 3,157.84	\$ 186.77
On-site	\$ 6,538.00	\$ -	\$ 6,538.00	\$ 1,259.20	\$ 68.81
On-site	\$ -	\$ -	\$ -	\$ 1,416.60	\$ 98.30
On-site	\$ 9,807.00	\$ -	\$ 9,807.00	\$ 1,337.90	\$ 78.64
On-site	\$ 22,883.00	\$ -	\$ 22,883.00	\$ 2,469.21	\$ 157.28
On-site	\$ 9,807.00	\$ -	\$ 9,807.00	\$ 1,180.50	\$ 78.64
On-site	\$ 9,807.00	\$ -	\$ 9,807.00	\$ 1,269.04	\$ 58.98
On-site	\$ 9,807.00	\$ -	\$ 9,807.00	\$ 1,770.75	\$ 147.45
On-site	\$ -	\$ -	\$ -	\$ 1,987.18	\$ 157.28
On-site	\$ 26,152.00	\$ 9,807.00	\$ 16,345.00	\$ 2,941.41	\$ 196.60
On-site	\$ 6,538.00	\$ -	\$ 6,538.00	\$ 1,967.50	\$ 127.79
On-site	\$ 26,152.00	\$ -	\$ 26,152.00	\$ 2,606.94	\$ 137.62
On-site	\$ -	\$ -	\$ -	\$ 2,164.25	\$ 147.45
On-site	\$ 3,269.00	\$ -	\$ 3,269.00	\$ 983.75	\$ 49.15
On-site	\$ -	\$ -	\$ -	\$ 1,200.18	\$ 68.81

On-site	\$ 39,228.00	\$ -	\$ 39,228.00	\$ 2,754.50	\$ 147.45
On-site	\$ -	\$ -	\$ -	\$ 1,387.09	\$ 98.30
On-site	\$ 26,152.00	\$ -	\$ 26,152.00	\$ 2,518.40	\$ 206.26
On-site	\$ 45,766.00	\$ -	\$ 45,766.00	\$ 3,354.59	\$ 235.92